

Manuel Heitor's Brief Biographical Note (January 2023)

Manuel Heitor is Full Professor at *Instituto Superior Técnico*, IST, the engineering school of the Technical University of Lisbon, www.ist.utl.pt, and was the founding director of IN+, the *Center for Innovation, Technology and Policy Research* at IST, <http://in3.dem.ist.utl.pt/>. From November 2015 to March 2022 he served as Minister for Science, Technology and Higher Education in the Government of Portugal and from March 2005 to June 2011 he served as Secretary of State for Science, Technology and Higher Education. Overall, he served more than 12,5 years in the Government of Portugal. In 2022 he received the Honorary Doctor in Science and Technology from Carnegie Mellon University and was nominated "IST distinguished Professor". He is a Honorary Member of the European Academy of Cancer Sciences, EACS, and a Corresponding Member of the Royal Academy of Engineering, Spain.

Education and Career: After earning a (five-year) degree in Mechanical Engineering at IST in 1981, he obtained his Doctorate at the Imperial College London in 1985 in the area of fluid mechanics and combustion. In 1986 he conducted post-doctoral studies at the University of California-San Diego in microgravity flame propagation. Manuel Heitor was appointed Assistant Professor at IST in 1986, Associate Professor in 1991 and Full Professor in 1995. He served as Deputy-President of *Instituto Superior Técnico* from 1993 to 1998. In addition to his engineering research, Manuel Heitor has worked and published extensively in the interrelated fields of technology management, innovation, and science and higher education policy. In 2011-12 he was a Visiting Scholar at Harvard University (GSD and Kennedy School). In 2022-23 he was a Visiting Research Professor at New York University (CUSP and Marron Institute) and a Visiting Scholar at Harvard University's GSD.

While in the Government of Portugal, Manuel Heitor was successfully involved in attracting public and private investment in R&D, growing the research landscape of the country, and in the reform and modernization of higher education (including, but not limited to, reforms under the Bologna Process). He launched the program "Go-Portugal – Global Science and Technology Partnerships Portugal" and was instrumental in forming international consortia for research and advanced education with several U.S. universities (MIT, Carnegie Mellon, UT Austin), including consortia are of varying types and scale, industry relationships and technology commercialization activities.

Internationally: Since 1995 he has been a Research Fellow of the IC² Institute (for "Innovation, Creativity and Capital") at the University of Texas at Austin. From 1996 to 2005 he chaired the Organizing Committee of the series of International Conferences on Technology Policy and Innovation, <http://in3.dem.ist.utl.pt/confpolicy/>. In 2002 he was co-founder of *Globelics: the Global Network for the Economics of Learning, Innovation, and Competence-building Systems*; and served until 2005 as a member of its Scientific Board and co-Director of the *Globelics Academy*. Manuel Heitor has participated in several international *fora* on science, technology and innovation policy, and represented Portugal in the OECD's initiative on Steering and Funding of Public Research and in its Futures Programme. He was a founding member of the Science and Technology Council of the *International Risk Governance Council*, IRGC.

In Portugal: Manuel Heitor was the founding director of IN+, the *Center for Innovation, Technology and Policy Research* at IST, which in 2005 was named one of the top 50 global research centers in technology management by the *International Association of Management of Technology*. He also launched IST's programmes in "science and technology commercialization" (IMPACT and the VECTOR^e Programs in the period 1997-2005), as well as the IST master programs on Engineering Policy and Management of Technology (1998) and in Engineering Design (2002). Also, he launched the IST Design Studio (2002). In 1999 he was appointed National Coordinator of the Research Assessment Exercise by the Portuguese Ministry of Science and Technology. In 2003 he coordinated a national initiative and exhibition on the history of engineering in Portugal in the 20th century, which won the Dibner Award of the Society for the History of Technology.

Books, Journals, Papers: Manuel Heitor has published over 130 scientific articles and supervised over 40 post-grad students. He is co-author of, among others, *New Ideas for the University* (in Portuguese, IST Press, 1998) and *Innovation for All?* (Praeger, 2005). He is co-editor of the book series on Technology Policy and Innovation, launched by Greenwood Publ. and currently continued by Purdue University Press. He is on the Advisory Boards of the journals *Technological Forecasting and Social Change* and the *International Journal of Technology, Policy and Management*, where he has served as guest editor for several special Issues.

Name : Manuel Frederico Tojal de Valsassina Heitor

Birth: September 21, 1958 - Lisbon, Portugal; **Nationality:** Portuguese

Contact/ Email: mheitor@ist.utl.pt;

Area of Specialization:

Science, Technology and Innovation Policy; Higher Education Policy, Engineering and Public Policy;

Other research areas of interest:

Management of Science and Technology; Risk Governance

Energy and Environmental Technologies; Experimental Fluid Mechanics and Combustion;

Education and academic degrees (chronologically):

1981: Engineering Diplom (5 years) in Mechanical Engineering, IST, Technical University of Lisbon

1985: Ph.D. in Mechanical Engineering, Imperial College London, UK

1992: “Agregação” (D. Sc.), in Mechanical Engineering, IST, Technical University of Lisbon

2022: Honorary Doctor in Science and Technology, Carnegie Mellon University, USA

2022: IST distinguished Professorship, IST, University of Lisbon

Academic and Research Career (chronologically):

1980-1981: Research student, IST, Dept. Mechanical Engineering

1981-1985: Research student, Imperial College, University of London, UK

Since October 1985: Teacher and Researcher at IST, Technical University of Lisbon

1986- Post-doctoral researcher, University of California at San Diego, USA

Since 1995: Full Professor, IST, Mechanical Engineering Department

2011-2012: Visiting Scholar at Harvard University (Graduate School of Design; and Science, Technology and Public Policy Program at the Kennedy School of Government)

Political and Government Appointments:

2015-2022: Minister for Science, Technology and Higher Education, Government of Portugal

2005-2011: Secretary of State for Science, Technology and Higher Education, Government of Portugal

Coordination of Research Assessments:

1999-2000: National Coordinator of the overall Research Assessment Exercise in Portugal, Foundation for Science and Technology (FCT), Portugal.

1996: Coordinator of the Research Assessment Exercise in the area of Mechanical Engineering, Foundation for Science and Technology (FCT), Portugal.

Institutional Development and University Management Appointments:

2013-2015: Director of the "Associate Laboratory in Robotics and Engineering Systems", LARSyS, at the Instituto Superior Técnico, Technical University of Lisbon

2013-2015: Director of the "Center for Innovation, Technology and Policy Research", IN+, at the Instituto Superior Técnico, Technical University of Lisbon

1998-2005: Founder and Director of the "Center for Innovation, Technology and Policy Research", IN+, at the Instituto Superior Técnico, Technical University of Lisbon

1993-1998: Deputy-President of the Instituto Superior Técnico, Technical University of Lisbon

Coordination of Academic Programs:

2014-2015: Director of the Ph.D. Program at IST on “Engineering Design and Advanced Manufacturing”

2012-2015: Director of the Ph.D. Program at IST on “Engineering and Public Policy”

2004-2005: Director, Globelics Academy – PhD School on Systems of Innovation and Economic Development

2003-2004: Director of the Program Solvay Ideas Challenge

2001-2005: Founder and Director of the IST Design Studio

2002-2005: Founder and Director of the M.Sc. Program at IST on “Engineering Design”

2001-2005: Director of the VECTOR^e Program at IST on “science and technology commercialization”

1997-2000: Director of the IMPACT Program at IST on “science and technology commercialization”

1997-2005: Founder and Director of the M.Sc. Program at IST on “Engineering Policy and Management of Technology”

Appointments in Academic and Scientific Institutions

2022: Fellow, TANDO, <https://tando.org/>

2021: Honorary Member of the European Academy of Cancer Sciences, EACS

2013: Corresponding Member of the Royal Academy of Engineering, Spain

2012: Member of the Academy of Engineering, Portugal

2011-2015: Member of the International Advisory Board of the University of Macau, China.

2010-2015: Member of the International Advisory Committee of the President of Carnegie Mellon University for the area of “Engineering and Public Policy”.

Since 2009: Member of Serbian Academy of Engineering Sciences (elected foreign member).

2002-2004: Member of the Examiners Committee of the Technology Policy Program, Cambridge-MIT Institute (CIT), University of Cambridge, Judge Institute of Management.

2004-2015: Member of the Science and Technology Council, International Risk Governance Council.

2002-2015: Co- founder and member of the “Scientific Board” of the international network “Globelics - the global network for the economics of learning, innovation, and competence building systems”

Since 1996: “Senior Research Fellow”, IC2 Institute (Innovation, Creativity, Capital), The University of Texas at Austin, USA.

Sample list of main awards:

- Bragança Polytechnic Honor Medal, 2023
- Rio de Janeiro State Assembly Medal, 2022
- Portuguese Polytechnic Institutes Gold Medal (CCISP), 2022
- IAMOT Award 2005 (institutional) – “Top 50 global centres of research on Management of Technology”, Intl. Association for the Management of Technology
- IAMOT Award 2004 – *Excellence in Research Award on Technology Innovation Management*, Intl. Association for the Management of Technology
- "Solvay Innovation Trophy 2003" for "Management Improvement", through the project "Solvay Ideas Challenge", <http://www.green-wheel.net/> (co-winner)
- Dibner Award 2003 – Society for the History of Technology, SHOT, Best Exhibition, through the project “Engineering in Portugal in the 20th century” (co-winner)
- Prémio TELEciência 2003 (4^º lugar) - V Festival Internacional do Filme de Divulgação Científica, através do filme “*ENGENHO E OBRA: Engineering in Portugal in the 20th century*”;
- Sugden Award in Combustion Research 1986 – The Combustion Institute, British Section.

Other Functions:

2012-13: Chairman of ALTEC 2013, the Latino-Ibero-American Conference on Management of Technology, Porto, 28-30 October, 2013.

2002/03: Director for the exhibition “Engineering in Portugal in the 20th century”

2002-2003: Director, “*Pensar e Fazer – Engineering for youngsters*”

2000: Chairman Intl. Conference on “Towards a learning society: Innovation and competence building with social cohesion for Europe - a seminar on socio-economic research and European policy”, Guincho, 28-30 Maio, 2000.

2000: Chairman Intl. Conference on “Collaborative Design: Competence Building for Innovation”, Hannover, Portugal Pavilion, September 11, 2000.

2000-2001: Expert at OECD, Science, Technology and Industry Division, for “Steering and Funding of Public Research”

2000- 2004: Expert at OECD, for the Project “Futures”

1997- 2005: Co-founder and “Chairman” of the international Conferences on “Technology Policy and Innovation”, <http://in3.dem.ist.utl.pt/conf.policy/>;

1990-2005: Member and main promoter of the International Organizing Committee of the Conferences on “Applications of Laser Techniques to Fluid Mechanics”, <http://in3.dem.ist.utl.pt/lisboa-laser/>;

Main teaching activities (courses taught at IST, University of Lisbon):

- Engineering Undergrad courses:

1985-1992: Heat Transfer I&II (3rd year)

1999-2004: Final Project in Mechanical Engineering (5th year)

2012-2015: Introduction to Engineering (1st year)

- Engineering Postgrad courses

1988-2001: Experimental Methods in Energy and Environment

1998-2005: Science, Technology and Innovation Policy

1998-2005: Innovation and Technology Transfer

1998-2005: Seminar in Engineering and Technology Management

Sample List of post-graduation students and thesis supervised/co-supervised:

Paulo M.C. Ferrão (IST; MSc; 1987); Jorge M. Barata (IST; PhD; 1989); Isabel S. Carvalho (IST; MSc, 1990); António L.N. Moreira (IST; PhD; 1991); Edgar F. Fernandes (IST; MSc; 1991); Paulo M.C. Ferrão (IST; PhD; 1993); Paulo M. Anacleto (IST; MSc, 1993); Pedro Conceição (ISEG; MSc; 1995); Armando C. Pires (IST; PhD; 1995); Isabel S. Carvalho (IST; PhD; 1996); Edgar F. Fernandes (IST; PhD; 1997); Filipe Santos (ISEG; MSc; 1997); Paulo M. Anacleto (IST; PhD, 1998); Dina Santos (IST; MSc; 1998); Pedro Oliveira (IST; MSc; 1999); Pedro Ferreira (IST; MSc; 2000); João P. Tabora (IST; MSc, 2001); Carla M. Costa (IST; MSc.; 2001); António C. Diogo (IST; MSc.; 2001); Alexandre R. Videira (IST; MSc; 2001); Luis C. Reis (IST; MSc; 2001); Pedro M. Vieira (IST; MSc; 2001); H. Meng (IST; MSc; 2001); Richard J. Nunes (IST; MSc, 2002); Danilo Rubini (IST; MSc; 2002); André Silva (IST; PhD; 2003); António L. Alves (IST; MSc, 2003); Joana Mendonça (IST; MSc; 2004); Miguel Amaral (IST; MSc; 2004); Nuno Ávila (IST; MSc, 2004); Miguel Leocádio (IST; MSc., 2004); José L. Moutinho (IST; MSc; 2004); André Rodrigues (IST; MSc.; 2005); Pedro Montgomery (IST; MSc; 2005); André M. Oliveira (IST; MSc; 2005); Marco R. Bravo (IST; MSc; 2005); Pedro A. Rebelo (IST; MSc; 2005); Ana Espada (IST; MSc; 2005); Maria J. Rodrigues (IST; PhD; 2005); Hugo Horta (IST; PhD, 2005); Antonino Vaccaro (IST; PhD, 2006); Daniela Couto (IST; PhD; 2012); Julio Pertuze (MIT - USA; PhD; 2013); Eugénia M. B. Ramiro (ISCTE; PhD; 2014); Leonardo Melo (UFRJ - BR; PhD; 2016); Anabela Reis (IST; PhD; 2016).

Sample List of post-doctoral researchers supervised/co-supervised:

Armando C. Pires (IST; 1995-1997); Isabel S. Carvalho (IST; 1996-1998); Mirosljub Adzic (IST; 1998-2004); Paulo M. Anacleto (IST; 1998-2000); V. Sivadas (IST; 1999-2002); Sten Thore (IST; 1999-2002); Konstandinos Goulias (IST; 1999); Pedro Conceição (IST; 2000-2002); Lyes Khezzer (IST; 2000); Nuno A. Oliveira (IST; 2000-2005); Robert Wilson (IST; 2000-2001); Sergei I. Shtork (IST; 2000-2004); Fred Menz (IST; 2001); Hugo Horta (IST; 2005-2012); Joana Mendonça (IST; 2013-2014); Muriel Pádua (IST; 2012-2014); Mattia Cattaneo (IST, Univ Bergamo; 2013); Daniela Couto (IST; 2012-2014); Roberto Sbragia (IST; 2013); Georg Rosenfeld (IST; 2013-2015).

Sample list of publications:

Main Books (co-authorship):

- P. Conceição, M. V. Heitor, (2005), *Innovation for All? Learning from the Portuguese path to technical change and the dynamics of innovation*. Westport and London: Praeger.
- M. Heitor and J. Duarte (2001). *GLASS CHAIR: Competence Building for Innovation*. Lisbon: IST Press.
- Conceição, P., Heitor, M.V. e Santos, F. (1998), *New Ideas for the University* (in Portuguese), Lisbon: IST Press.

Main Books (edition):

- M. Heitor (2021), "Utopia and Knowledge – The Portuguese presidency of the European Union in the area of research, innovation and higher education", MCTES.
- H. Horta, M. Heitor and J. Salmi (eds.), (2015), *Building capacity in Latin America: trends and challenges in science and higher education*, Series in Higher Education, Springer Verlag.
- M.L. Rodrigues and M. Heitor (2015), "40 anos de Políticas de Ciência e Ensino Superior", Almedina, Lisboa.

- E. Beira and M. Heitor (2015), “CIÊNCIA, SOCIEDADE E TECNOLOGIA: ENSAIOS SOBRE MICHAEL POLANYI”; <https://sites.google.com/site/ebeira/altec13>.
- M. van Geenhuizen, D. Gibson and M. V. Heitor (eds.), (2005), *Regional Development and Conditions for Innovation in the Network Society*. New York: Purdue University Press.
- Heitor, M. (ed.), (2004), “Ciências Experimentais”, (in portuguese), Nova Activa Multimédia – Enciclopédia de Consulta, Lexicultural Editores
- Heitor, M. (ed.), (2004), “Tecnologias”, (in portuguese), Nova Activa Multimédia – Enciclopédia de Consulta, Lexicultural Editores
- M. Heitor (ed.), (2004), “Pensar e fazer engenharia com os mais novos: *um ensaio sobre cultura tecnológica para pais e educadores*” (in Portuguese), Lisboa: Dom Quixote
- D. Gibson, M. V. Heitor and A. Ibarra (eds.), (2004), *Knowledge and learning for the Network Society*. New York: Purdue University Press.
- J.M.B. Brito, M. Heitor, M.F. Rollo (eds.), (2004), “Engineering in Portugal in the 20th century” (in Portuguese), Lisboa: Dom Quixote
- J. Bento, J. Duarte, M. Heitor and W. Mitchell, (eds.), (2004), *Collaborative Design and learning: competence building for innovation*. Westport and London: Praeger.
- D. Gibson, C. Stolp. P. Conceição, and M. V. Heitor (eds.), (2003), *Systems and Policies for the Global Learning Economy*. Westport and London: Praeger.
- M. Heitor, J.M.B. Brito, M.F. Rollo, H. Cayatte, J. Pessoa, R. Trindade (eds), (2003), “*Engenho e obra: memory of an exhibition*” (in Portuguese), Lisboa: Dom Quixote
- P. Conceição, M. V. Heitor, B.-A. Lundvall (eds.), (2003), *Innovation, Competence Building, and Social Cohesion in Europe- Towards a Learning Society*, London: Edward Elgar.
- P. Conceição, D. Gibson, M. V. Heitor, G. Sirilli, F. Veloso (eds.), (2002), *Knowledge for Inclusive Development*. Westport and London: Quorum Books.
- J.M.B. Brito, M. Heitor, M.F. Rollo (eds), (2002), “*Engenho e obra: an approach to the history of engineering in Portugal in the 20th century*” (in Portuguese), Lisboa: Dom Quixote
- M. Heitor (2001), “National evaluation of R&D Units in Portugal” (in Portuguese), Portuguese Ministry of Science and Technology.
- P. Conceição, D. Gibson, M. Heitor and S. Shariq (2000). *Science, Technology and Innovation Policy: Opportunities and Challenges for the Knowledge Economy*. QUORUM Publ., New York.
- R. Adrian, D. Durão, F. Durst, M. Heitor, M. Maeda and J. Whitelaw (2000). *Laser Techniques Applied to Fluid Mechanics*, Springer Verlag.
- M. Heitor (1999) “National evaluation of R&D Units in Mechanical Engineering in Portugal” (in Portuguese), Portuguese Ministry of Science and Technology.
- R. Adrian, D. Durão, F. Durst, M. Heitor, M. Maeda and J. Whitelaw (1997). *Developments in Laser Techniques and Fluid Mechanics*, Springer Verlag.
- R. Adrian, D. Durão, F. Durst, M. Heitor, M. Maeda and J. Whitelaw (1996). *Developments in Laser Techniques and Applications to Fluid Mechanics*, Springer Verlag.
- F. Culick, M. Heitor and J. Whitelaw (1996). *Unsteady Combustion*, Kluwer Academic Publishers, NATO/ASI Series.

Technical Journals Edited:

- *Technological Forecasting and Social Change*, Elsevier Science Inc.
- *Intl. Journal of technology, Policy and Management*, Inderscience Publishers

Sample of the Main Papers in Technical Journals and Books in the last 25 years (i.e., since 1995):

- Bauman, M., Celis, J., Ringborg, U., Heitor, M., et al. (2023), “Engaging European society at the forefront of cancer research and care: how discussions at the 5th Gago Conference on European Science Policy led to the Heidelberg”, *Molecular Oncol.*, 20, pp.5-26.
- Ringborg, U., Celis, J., Heitor, M., et al (2021), “The Porto European Cancer Research Summit 2021”, *Molecular Oncol* 15, pp. 2507-2543.
- Berns, A., Ringborg, U., Celis, J., Heitor, M., et al. (2020), “Towards a cancer mission in Horizon Europe: recommendations”. *Molecular Oncol* 14, pp. 1589–1615.
- Celis, J.E. and Heitor, M. (2019), “Towards a mission-oriented approach to cancer in Europe: an unmet need in cancer research policy.” *Molecular Oncol* 13, pp. 502– 510.

- Heitor, M. (2016), "Open the box in times of uncertainty: Fostering networks of opportunity through collaborative laboratories and learning landscapes, together with global research networks", OECD High-Level Event on the "Knowledge Triangle: Enhancing the Contributions of Higher Education and Research Institutions to Innovation", Paris, 15-16 September 2016.
- Heitor, M., Horta, H., Dopazo, C. and Feyo, N. (2016), "Iberia thirty years after Saramago's Stone Raft: Opportunities for technical change and challenges for science and technology policy under increasing uncertainty", *Technological Forecasting and Social Change*, 113(Part B), pp.129-145.
- M. Heitor and H. Horta (2016), "Reforming higher education in times of uncertainty: are illities important?", *Technological Forecasting and Social Change*, 113, pp. 146-156.
- Reis, A., Heitor, M., Amaral, M. and Mendonça, J. (2016), "Revisiting industrial policy: Lessons learned from the establishment of an automotive OEM in Portugal", *Technological Forecasting and Social Change*, 113 (PART b), pp. 195-205.
- Mendonça, J. and Heitor, M. (2016), "The changing patterns of industrial production: How does it play for the Iberian Peninsula?", *Technological Forecasting and Social Change*, 113 (PARTB), pp. 293-307.
- M. Heitor, H. Horta and M. Leocádio (2016), "Enlarging the social basis of higher education: lessons learned from a risk-sharing loan scheme in Portugal", *Technological Forecasting and Social Change*, 113 (PARTB), pp. 319-327.
- S. Hasanefendic, M. Heitor and H. Horta (2016), "Training students for new jobs: the role of technical and vocational higher education and implications for science policy in Portugal", *Technological Forecasting and Social Change*, 113(Part B). pp. 328-340.
- João M. Santos, Hugo Horta, M. Heitor (2016), "Too many PhDs? An invalid argument for countries developing their scientific and academic systems: the case of Portugal", *Technological Forecasting and Social Change*, 113 (PARTB), pp. 352-362.
- M. Heitor (2015), "Science Policy for and increasingly diverging Europe", *Journal of Research Policy and Evaluation*, 2.
- M. Heitor (2015), "How far university global partnerships may facilitate a new era of international affairs and foster political and economic relations?", *Technological Forecasting and Social Change*, 95, pp. 276-293.
- M. Heitor, H. Horta, R. Castañón, R. Sbragia and A. Jiménez (2014), "Can Latin America move forward after a lost decade in technical change?...looking at opportunities for knowledge-based change in times of increasing uncertainty", *Journal of Technology Management and Innovation*, Vol 9 (4a).
- M. Heitor and H. Horta (2014), Further democratizing Latin America: Broadening access to higher education and promoting science policies focused on the advanced training of human resources, *Journal of Technology Management and Innovation*, Vol 9 (4a), pp. 1-19.
- M Heitor, H. Horta and J. Mendonça (2014), "Developing human capital and research capacity: science policies promoting brain gain", *Technological Forecasting and Social Change*, 82, pp. 6-22.
- M. Heitor and H. Horta (2014), "Democratizing higher education and the access to science: the Portuguese reform 2006-2010", *Higher Education Policy*, 27, pp. 239-257.
- M. Heitor and H. Horta (2012), "Opening-up higher education in emerging economies: Autonomy and integrity on the rise of globalization", *Intl. Journal of Chinese Education*, 1, pp. 196-234.
- Heitor, M., and Horta, H., (2011), "Science and Technology in Portugal: From Late Awakening to the Challenge of Knowledge Integrated Communities" in Neave, G., and Amaral, A., (Eds) *Higher Education in Portugal 1974-2009: A Nation, A Generation*, Dordrecht: Springer, 179-226.
- M. Heitor and M. Bravo (2010), "Portugal on the crosstalk of change, facing the shock of the new: People, knowledge and ideas fostering the social fabric to facilitate the concentration of knowledge integrated communities", *Technological Forecasting and Social Change*, 77, pp. 218-247.
- M. Heitor (2009), "The European Research Universities and the Challenge for Science and Technology in Europe", in: Charles F. Bonser (ed.), *Adapting Universities to the Global Society - A Transatlantic Perspective*, Münster: LIT-Verlag, February 2009.
- M. Heitor (2009), "Tertiary Education Institutions in Times of Change: A Systems Approach to Institutional Transformation", in "The Future of the Research University: Meeting the Global Challenges of the 21st Century", Kauffman Foundation, pp. 55-67. Also presented at The 2008 Kauffman-Max Planck Annual Summit on "Rethinking the Role of the University and Public Research for the Entrepreneurial Age", Munich, June 8-11, 2008.

- M. Heitor (2008). "A system approach to tertiary education institutions: towards knowledge networks and enhanced societal trust". *Science and Public Policy*, 35 (8), pp. 607-617.
- H. Horta, J. Huisman and M. Heitor (2008). Does a competitive research funding encourage diversity in higher education? *Science and Public Policy*, 35(3), pp. 146-158.
- P. Conceição, M. V. Heitor and H. Horta (2008), "R &D funding in US universities: from public to private support or public policies strengthening diversification?", in J. Enders, B. Jongbloed (eds.), "Public-Private Dynamics in Higher Education: Expectations, Developments and Outcomes", pp. 301-328., Bielefeld, Transcript Verlag.
- J.M. Gago and M. Heitor (2007), "A commitment to science for the future of Portugal", in J.M.Gago, ed., "The Future of Science and Technology in Europe", Portuguese Ministry of Science, Technology and Higher Education, pp. 403-416.
- P. Conceição and M.V. Heitor (2007), "Diversity and integration of science and technology policies", *Technological Forecasting and Social Change*, 74, pp. 1-17.
- P. Conceição and M.V. Heitor (2007), "Do we need a revisited policy agenda for research integrity? ...an institutional perspective", "World Conference on Research Integrity", Calouste Gulbenkian Foundation, Lisbon, Portugal, 16-18 September 2007.
- G.P.J. Dijkema, P. Ferrão, P.M. Herder and M. Heitor (2006), "Trends and Opportunities framing Innovation for Sustainability in the Learning Society", *Technological Forecasting and Social Change*, 73(3), pp. 215-227.
- P. Conceição, J. Ehrenfeld, M. Heitor and P.S. Vieira (2006) 'Sustainable universities: fostering learning beyond environmental management systems', *Int. J. Technology, Policy and Management*, Vol. 6, No. 4, pp.413-440.
- P. Conceição, M. V. Heitor, P. Vieira (2006), "Are Environmental Concerns Drivers of Innovation? Interpreting Portuguese innovation data to foster environmental foresight", *Technological Forecasting and Social Change*, 73(3), pp. 266-276.
- M. van Geenhuizen, D. Gibson and M. V. Heitor (2005) "Fostering Innovation and Regional Development in the Global Learning Economy", in M. van Geenhuizen, D. Gibson and M. V. Heitor (eds.), *Regional Development and Conditions for Innovation in the Network Society*, pp.1-13. New York: Purdue University Press.
- P. Conceição and M. Heitor (2005) "Mapping Networks of Excellence and S&T Competencies for Europe: Building on the Portuguese Experience in evaluating research excellence", in M. van Geenhuizen, D. Gibson and M. V. Heitor (eds.), *Regional Development and Conditions for Innovation in the Network Society*, pp.241-271. New York: Purdue University Press.
- J. Moutinho and M. Heitor (2005), "Building Human Centered Systems Based on Communication Infrastructures: Evidence from Portugal", in Marshall, S., Taylor, W. and Yu, X., (eds.), "The Encyclopedia of Developing Regional Communities with ICT", Hershey, Idea Group.
- S. I. Shtork, C.E. Cala, E.C. Fernandes, and M.V. Heitor (2005) "Coherent Helical Structures in Swirl Flows. *Technical Physics Letters*", Vol. 31, Issue 8, pp. 660-662.
- S.I. Shtork, O. Comas, E.C. Fernandes, and M.V. Heitor (2005) "Aerodynamic structure of unsteady swirling flow downstream of a sudden expansion". *Thermophysics and Aeromechanics*, Vol. 12, No. 2, pp. 217-228.
- C.E. Cala, E.C. Fernandes, M.V. Heitor and S.I. Shtork (2005), "Coherent structures in unsteady swirling jet flow". *Experiments in Fluids*; available online at <http://dx.doi.org/10.1007/s00348-005-0066-9>.
- E.C. Fernandes, M.V. Heitor M.V. and S.I. Shtork (2005), "An analysis of unsteady highly turbulent swirling flow in a model vortex combustor". *Experiments in Fluids*; available online at <http://dx.doi.org/10.1007/s00348-005-0034-4>.
- P. Conceição, M.V. Heitor, and H. Horta (2005), "R&D funding in US universities: from public to private support or public policies strengthening diversification?" em Enders, J., and Jongbloed, B., (Eds) *Public-Private Dynamics in Higher Education: Expectations, Developments and Outcomes*, (CHEPS, University of Twente).
- M. Heitor, R. Nunes and P. Conceição (2004). "Technological Change and the challenges for Regional Development: Building 'social capital' in Less Favored Regions", in A. Romano M. Landabaso (eds.), "Social capital, innovation and regional development", European Commission.

- M. V. Heitor (2004), "...in the way of a Manifesto: Competence Building for Innovation", in J. Bento, J. Duarte, M. Heitor and W. Mitchell (eds.), *Collaborative Design and learning: competence building for innovation*. Westport and London: Praeger; pp. ix-xxiii.
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